

UNIVERSITY OF TWENTE

**Perceived Motives and Mental Health Characteristics of the Incel Men:
What Incel men think Women value in a Mate vs. Women's actual Mate Preferences**

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Abstract

The present study examines, whether there is a difference between what Incel men think women value in a mate and women's actual mate preferences. Previous research supposes, Incel men tend to reduce the dimensions of women's mate preferences to one's of physical attractiveness and social status. However, research on women's mate preferences reveals these preferences are multidimensional and stresses the importance of commitment cues to women, such as interpersonal warmth. Based on this research, the present study investigates Incel men's and women's responses to a questionnaire, assessing the Incel men's perception of women's mate preferences on the three dimensions physical attractiveness, social status and interpersonal warmth. Predictions entailed, the Incel men think women prefer traits related to physical attractiveness and social status more than non-Incel women do themselves. Further, it was hypothesized that women show stronger preferences towards traits related to physical attractiveness in the short-term, than in the long-term. Next to this, it was hypothesized that women rate traits of interpersonal warmth higher than traits of physical attractiveness and social status when it comes to long-term mate preferences. The results revealed the Incel men indeed thought women rate physical attractiveness and social status higher in mating, than women actually do. Regarding the women's mate preferences, the predictions are also supported. However, higher sample sizes of self-identified Incels should be obtained to increase the generalizability of the results. Therefore, validation of the above findings should be subject to further research of the Incels perception on mate preferences.

This paper investigates individuals, who are part of an online community named the „involuntary celibates“ and in short referred to as „Incels“. They are characterized as an online community of men, blaming women for their celibacy (Jaki et al., 2019). This means, not engaging in sexual intercourse or building romantic relationships with women, despite wanting to do so. The roots of the Incel movement lie in the 1990s. A queer woman named “Alana” created a website, to give people struggling with involuntary celibacy and feelings of isolation a channel for self-expression (Palma, 2019). Social media and platforms such as “incels.net”, created a space for the community to grow exponentially and share content, which has increasingly been distinguished by male chauvinism and misogyny (Palma, 2019; Jaki et al., 2019). To date, some Incel groups and the content they share receive negative attention by the public, as they are viewed as extremist groups with misogynistic and racist attitudes (Papadamou et al., 2020).

There have been few members who acted on their hatred, in the name of the Incels. This begun with Elliot Rodger, who killed six people and eventually committed suicide in 2014, followed by Alek Minassian, who intentionally drove a van over sidewalks in Toronto, killing ten people and injuring more (2018). Besides these two incidents, numerous suicides occurred among previous group members, who considered this their only solution (Saragoza, 2020). Online data of the forums suggests that the expressed frustration prompts threats, the approbation of rape and other forms of violence (Saragoza, 2020). Still, although violent and misogynistic attitudes are a characteristic of the Incel community, most members do not support violence against women.

An eminent characteristic of the Incel men’s ideology is their perception of men and women and the relationship between them. Members of the Incel community see themselves as a physically undesirable in-group enduring sexual exclusion, brought upon them by the out-group of physically attractive men and women (Saragoza, 2020; Williams & ^, 2020). Their ideology stems from the belief, that feminism is overruling western society; a woman’s freedom of choice in mating, leading to her choosing only men high in status and looks. The Incel men call these men “alpha-males”. Alpha-males are defined as muscular handsome men, who are desirable to the opposite sex and successful in mating, while “beta-males” are men low in looks and status, hence made out to be unsuccessful in mating (Ging, 2019). They believe the alpha-males outrival the beta-males, due to the alpha-males high phenotypic quality (Saragoza, 2020).

The Incels ideology might be based on a biased perception of women’s mate preferences, due to being rejected and lacking success in the mating market, despite desiring a

romantic or sexual relationship. As the core of their dissatisfaction concerns the relationship between men and women, the research aims to investigate what the Incel men believe women value in a mate, compared to women's actual mate preferences. The next sections review the Incel men's beliefs regarding women's mate preferences, in contrast to the results of research on women's mate preferences.

The Incels perception of women's mate preferences

Previous research shows, that the Incel men's ideology is based on them "quantifying unquantifiable things such as love, sex and physical attractiveness using acronyms and numbers" (Young, 2019). They believe women select their mates merely based on "physical attractiveness", holding them to be shallow and only interested in men scoring high in status and looks (Young, 2019). To them, the world we live in is framed by a hierarchical structure or class system, ranking from high to low based on people's physical attributes and resulting social status. They perceive themselves at the bottom of the hierarchy, solutions being either enhancing their looks or making more money to attract a woman's attention (Collins, 2018). In line with these findings, the evaluation of multiple online forums of the Incel community suggests that Incel men believe they are devalued by women as those engage in "lookism" (Jones, 2020). According to them, women solely select mates high in physical attractiveness, and they assume financial means are the only substitute to compensate for less attractive looks (Jones, 2020).

The Incel men's opinion circles around their physical traits, which they believe in prohibiting a woman's interest in them, as they lack masculinity. Masculine attributes are, among others, defined as androgen and robust looking faces, density of facial hair, deeper voices and muscular body types – traits that generally indicate high testosterone production; while high muscle volume and high fat free mass are also listed as predictors of early mating success (Puts, Jones & Debruine, 2012; Lassek & Gaulin, 2009). Another study investigating the comments made in Incel forums on reddit.com shows a high number of members expressed their belief of women picking only men taller than themselves and preferring bigger body types over skinny one's in men (Maxwell, Robinson, Williams & Keaton, 2020). Their study further reveals that Incels think how women perceive a man's personality is based on cues of physical attractiveness only. Hence, members on reddit.com also believe when abusive men score high on looks, they are chosen over committed men who are less physically attractive (Maxwell, Robinson, Williams & Keaton, 2020). Height and facial attractiveness have also been listed as critical mating cues for women by Incel men (Jones, 2020).

It appears that the Incels as a community have internalized a view coined by patriarchal norms regarding a man's sexual attractiveness (Srinivasan, 2018). These norms entail the notion of attractive females preferring alpha males only. This means, they limit the qualities they think women are attracted to, to ones found on a physical and socio-economic dimension. Hence, the next section turns to theory and evidence on women's mate preferences.

Theory and evidence of women's mate preferences

As examined in the above, Incels appear to believe physical and socio-economic constructs to antecede social and behavioural ones in a woman's mate preferences. This may not stand in line with the theories and evidence found in previous research on human mate preferences, suggesting women's mate preferences to be flexible.

Matching their ideological claims, evolutionary psychology revealed masculine attributes to connote a man's longevity and health, hence making them an important factor in mate selection for reproduction purposes (Puts, Jones & Debruine, 2012). Buss and Schmitt (2019), additionally found women who assess themselves as physically attractive to be interested in masculinity and, for instance, low pitched voices. Women high in mate value seemed to generally require men to fulfil a high amount of mating criteria. It was also assessed, that men with low levels of masculinity were viewed as weak and submissive by women (Frederick & Haselton, 2007).

Although this stands in line with the Incels claims, this research is seldom one sided. Papers listing facial and body attractiveness or masculinity in men as predictors of mating, show this applies mainly to the formation of short-term relationship with women, not long term (Rhodes, Simmons & Peters, 2005). For the formation of long-term romantic relationships, more factors come to play in the qualities that are found attractive (Rhodes, Simmons & Peters, 2005). For example, Buss and Schmitt (2019) point out that women assess mate value of potential long term mates on three dimensions, including status or economic resources (intelligence, ambition, industriousness), ability to physically protect (good genes, masculinity, attractiveness) but also the willingness to invest these resources and commit to them (emotional stability, dependability). It was further found that men, more than women value physical attractiveness, whereas women are more inclined to be drawn to men with a prosocial attitude (Graziano, Jensen-Campbell, Shebilske & Lundgren, 1993). According to Buss and Schmitt (2019), women find the experience of love to precede feelings of sexual desire when it comes to committing to a man. According to them, women affirm dependability and emotional stability as important prerequisites in males, as those warrant

good parenting potential. This stands in line with the findings of Greitemeyer (2005), who assesses the importance of good genetics and social status for women is only high in environments where there is inequality between the genders, both traits, therefore, being essential cues of survival. Gangestad and Simpson (2000) add that if the environment requires bi-parental care of off-spring, women focus on investment and commitment potential of a mate, rather than physical cues.

As elucidated, Incels list masculinity as an important predictor in a woman's assessment of a man's mate value. However, Puts, Jones and Debruine (2012) find masculinity to not only signal longevity to females, but also a high likelihood of that person to cheat, due to high testosterone levels and competition with other females. Research additionally claims, that women impute anti-sociality to men high in masculinity (Debruine, Jones, Crawford, Welling & Little (2010). This means, they find average masculine men ideal for long-term relationships. Substantial evidence also claims women make a cost-benefit trade-off between the implications of choosing a masculine man, in terms of their children's potential DNA, but a possible low commitment on behalf of their partner (Debruine et al., 2010; Greitemeyer, 2005). Physical cues of DNA are listed as, for example, masculinity, muscularity and attractiveness, whereas commitment cues involve resource acquisition, but also traits of interpersonal warmth, emotional stability and maturity (Gangestad & Simpson, 2000). With regard to mate value, a man's ability to provide stability for a woman is found to outrule high degrees of masculinity (Frederick & Haselton, 2007).

Consecutively, attractiveness appears to be a multidimensional construct for women and their mate preferences are flexible to their living environment. Investigating the Incels outlook on the world suggests they neglect these factors.

The current study, research question and hypotheses

The present study aims to investigate whether Incels have a biased perception of women's mate preferences. Previous findings suggest, that Incels neglect desire and attraction are socially constructed concepts, resulting from a combination of biology and culture (Bratich & Banet-Weiser, 2019). Their belief system is built on the notion that their social isolation and lack of mating success with women is based on them only being attracted to men with specific physical features and high social status. As literature shows, there are more dimensions women assess a man's attractiveness on, and one might encounter the Incels tend to exaggerate women's preferences for sexy looks, physical attractiveness and wealth. A wide range of social media platforms promote beauty norms, giving the impression that these norms of attractiveness apply universally and unequivocally under all conditions (Grammer,

Fink, Møller & Thornhill, 2003). Generally, the community is fueled by social media as it is a part of most people's daily lives and since Incel men are more likely to surround themselves with people of similar opinion. This makes it relevant for researchers to gain knowledge on the fundament of the Incel men's ideological claims. Research is also essential for practitioners who work with Incel men, as it enables them to address the role their client's attitudes and according behaviours lead in their lack of success in mating.

Therefore, the research question derived for the present study is: "Is there is a discrepancy between what Incels think women value in a mate and women's actual mate preferences?". Specifically, several hypotheses are derived from this.

Hypothesis 1: Incel men think women prefer traits related to physical attractiveness and social status more than non-Incel women do themselves.

Hypothesis 2: Women will show stronger preferences of traits related to physical attractiveness in a short-term mate, than in a long-term mate.

Hypothesis 3: Women will rate traits of interpersonal warmth higher than traits of physical attractiveness and social status when it comes to long-term mate preferences.

Hypothesis 4: The Incel men's perception of women's mate preferences will not differ among the notion of short-term or long-term mates.

Methods

Participants

Students from the University of Twente were recruited, in exchange for study credits (Sona points). Further, active members of online forums and social media communities were recruited through convenience sampling. These forums involved reddit.com, discord servers, Incels.co, p0gramm.com, pornhub.com, Tumblr, Facebook and Instagram. The data of participants that did not give consent or complete the survey and did not pass the attention checks was excluded, in total 176 responses were deleted. Moreover, respondents who neither identified as female or male were removed. In total. 317 responses were collected, however the final sample comprised of 136 participants, 41 % being male, 56.8 % female and 2.2 % identifying as other. The average age is 24.59 with a standard deviation of 5.59 years, the age range being 18 – 50 years. 52.5 % of participants are European, 21.6 % American and 3.6 % Canadian. To examine the sample characteristics, descriptive statistics and frequencies were computed on the demographic variables, as can be seen in table 1.

Table 1

Demographic Characteristics of the Respondents (N=136)

Variables	Frequency	%
Sex		
Male	57	41.0
Female	79	56.8
Other	3	2.2
Nationality		
European	73	52.5
American	30	21.6
Canadian	5	3.6
Other	20	14.4
Ethnicity		
White	120	86.3
Black	4	2.9
Mixed race	7	5
Other	8	5.7
Education		
Less than high-school	1	0.7
High-school graduate	64	46
College graduate	22	15.8
Undergraduate degree	39	28.1
Master's degree	13	9.4
Employment status		
Student	80	57.6
Employed Full-time	34	24.5
Employed part-time	8	5.8
Unemployed	13	9.4
Other	4	2.9
Socio-economic status		
Very poor	17	12.3
Middle class	84	60.4
Wealthy	38	27.4
Sexual orientation		

Heterosexual	93	66.9
Homosexual	7	5
Bisexual	35	25.2
Other	4	2.9
Relationship status		
Not dating	53	38.1
Casually dating	15	10.8
Exclusively dating	43	30.9
Living together/engaged/married	28	20.1

Design and Procedure

A cross-sectional study was conducted during April 2020, using an online questionnaire which was designed in Qualtrics. In the beginning, participants were told the survey measures underlying motives and attitudes towards interpersonal relationships and provided with the survey link. Informed consent was obtained, and it was clarified to the participants, that their obtained information was treated confidential. Further, they were requested to fill in their demographic information. Then, participants completed a question assessing whether they identify as involuntary celibates or not and three more questions assessing their level of Inceldom. In between, questions were asked that tested whether participants were still paying attention, to ensure the validity of the results. All questions in the survey were randomized to account for order effects. In the end, participants were debriefed, and it was clarified that the study investigates one's degree of involuntary celibacy and perceptions towards women and male-female relationships. Additionally, participants were given the option of providing their e-mail address to win an amazon voucher. Then, participants were dismissed.

Materials

Demographics. Primarily, the demographic information of participants was collected, by assessing their age, sex, nationality, ethnicity, education, socio-economic status, sexual orientation and current relationship-status [9 questions].

Incel status and level of Inceldom. This part of the survey measured Incel status and Level of Inceldom. To assess a participants Incel status, they were asked whether they identified as an Incel and whether they were part of any Incel forums and according amount of activity spent on these [2 closed questions]. An additional scale measured Level of

Inceldom, with a randomized 5 point Likert scale, ranging from “does not describe me well”, to “describes me extremely well” [12 items, e.g.: “I want to date, but nobody wants to date me” and “I want to find a romantic/sexual partner, but I am too physically unattractive”]; .38 – .90]. These questions were also asked if participants had not previously self-identified as Incels. An exploratory factor analysis was run for the Level of Inceldom scale, to assess its preliminary construct validity. The items loaded on a 2-factor structure and all 12 items were kept. The scale also displayed an excellent internal consistency with Cronbach’s alpha being .92.

Women’s perceived and actual mate preferences. An adapted version of the mate preferences questionnaire by Buss (1986) was used, which can be found in the appendix. The variables measured were the Incel men’s perception of women’s mate preferences in a man for short-term and long-term mating and women’s actual mate preferences in a man for short and long-term mating. Mentioned variables were measured with a randomized Likert scale, which encompassed 19 items covering three dimensions. These involved physical appearance [7 items: Attractive face, attractive body, physical fitness, masculinity, sex appeal, weight, height], interpersonal warmth [7 items: Kind & understanding, loyal & dependable, emotional stability & maturity, desire for home & children, sociability, exciting personality, sense of humor] and social status [5 items: Wealth & good financial prospect, social status, ambition & industriousness, education & intelligence, job & employment]. Some items were taken from a study, distinguishing between short and long-term mate preferences (Jonason, Webster & Gesselman, 2013). Each item was rated by participants based on a 7-point Likert scale, ranging from “absolutely undesirable” to “absolutely desirable”. After conducting an exploratory factor analysis, five items were deleted due to cross-loadings on multiple factors, namely “Height”, “Masculinity”, “Sociability”, “Education and intelligence”, and “Desire for home and children”. The three adapted scales were physical attractiveness [5 items; loadings ranged from .49 to .79], interpersonal warmth [5 items; loadings ranged from .36 to .80] and social status [4 items; loadings ranged from -.46 to -.76]. The scales for both long-term and short-term mate preferences displayed an acceptable internal consistency with Cronbach’s alpha being .79 for long-term physical attractiveness, .72 for long-term interpersonal warmth .73 for long-term social status, .79 for short-term physical attractiveness, .75 for short-term interpersonal warmth and .79 for short-term social status.

Data analysis

The data obtained with the survey was analysed using the program IBM SPSS statistics 25. First, data that did not fulfil the inclusion criteria was deleted. A number of male

participants who did not self-identify as an Incel, scored high on Incel attitudes in other questions. Therefore, a median split was conducted on male participants scores on the other questions of level of Inceldom. This was done, to increase the sample size of Incel men. A man scoring above the median of 1.17 was classified as a “high-Incel man” for analysis purposes. In total, 36 men were classified as high-Incel men. For comparison purposes with this group, women that scored below the median of 1.17, were classified as “low-Incel women”. In total 49 women were classified as low-Incel women. The classified high-Incel men and the self-identified Incel men were treated as separate groups in the analysis. The high-Incel men were compared to the group of classified low-Incel women and the self-identified Incel men were compared to the non-Incel women; however the results of both groups were compared. Due to a technical error in the data collection process via Qualtrics, data on what Incels think women value in a long-term mate was collected, but not what they think women value in short-term mates. Therefore, Hypothesis 4 could not be tested. Only Hypotheses 1, 2 and 3 were analysed.

To answer hypothesis 1 “Incels think women prefer traits related to physical attractiveness and social status more than non-Incel women do themselves”, two one-way between subjects ANOVAS were conducted, one with the self-identified Incels and then repeated with the group of men, generally scoring high on Level of Inceldom. The independent variable was the self-identification as an Incel (or Level of Inceldom in the second analysis) and the dependent variables for both analyses were the participants individual scores on both physical attractiveness and social status. This was done to compare mean scores on the physical attractiveness and social status dimensions, between the self-identified Incels versus non-Incel women and high-Incel men versus non-Incel women. The alpha significance level for this study is chosen to be 0.05. A significance level of 0.05 to 0.1 is considered marginally significant.

For the second hypothesis “Women will show stronger preferences of traits related to physical attractiveness in a short-term mate, than in a long-term mate”, a one-way within subjects ANOVA was conducted to compare women’s mate preferences for physical attractiveness in short and long-term mating. The independent variable were the women’s mate preferences for physical attractiveness and the dependent variables were the short and the long-term conditions. The alpha significance level for this hypothesis is chosen to be 0.05.

In order to answer the third Hypothesis “Women will rate traits of interpersonal warmth higher than traits of physical attractiveness and social status when it comes to long-term mate preferences”, a one-way within subjects ANOVA was conducted to compare the

means of women's mate preferences for interpersonal warmth, physical attractiveness and social status in long-term mating. The independent variable was the long-term mating condition, while the dependent variables were interpersonal warmth, physical attractiveness and social status. The alpha significance level for this hypothesis is chosen to be 0.05.

Hypothesis 4 "The Incel men's perception of women's mate preferences will not differ among the notion of short-term or long-term mates" could not be answered, due to a technical error in the Qualtrics survey, which only enabled the collection of data on women's perceived long-term mate preferences.

Results

Descriptive statistics

Descriptive statistics were calculated for the variables physical attractiveness, interpersonal warmth and social status of the mate preferences scale. This was done separately for the four groups of classified high- Incel men, classified low-Incel women, the self-identified Incel men and non-Incel women. Due to the technical error in Qualtrics, for Incel men, only their perception on women's long-term mate preferences was measured.

Table 2

Descriptive statistics

	High-Incel Men	Low-Incel women	Self-ID Incel men	Non-Incel women
	M(SD)	M(SD)	M(SD)	M(SD)
LT Physical Attractiveness	5.76(.88)	5.11(.65)	5.37(.79)	5.09(.65)
LT Social status	6.07(.72)	5.33(.74)	5.57(.82)	5.30(.73)
LT Interpersonal warmth	-	-	5.67(.92)	6.46(.39)
ST Physical attractiveness	-	-	-	5.51(.84)
ST Social status	-	-	-	4.34(.84)
ST Interpersonal warmth	-	-	-	5.41(.88)

Note. ST = Short-term, LT = Long-term, N = 36 (men scoring above the median of 1.17 of “LevelofInceldom”), N = 49 (women scoring below the median of 1.17 of “LevelofInceldom”), N = 11 (Self-ID Incel men), N = 79 (non-Incel women)

Test of Hypothesis 1

The first two between-subjects analyses of variance for hypothesis one were conducted with the self-identified Incel men and non-Incel women. They revealed a significant difference between means of physical attractiveness, $F(1,89) = 10.51, p = .002$, where self-identified Incel men scored higher than non-Incel women. A significant difference between means of non-Incel women’s perceived and actual social status preferences was also found, $F(1,89) = 12.10, p = .001$. Repeatedly, self-identified Incel men scored higher than non-Incel women. Another between-subjects analysis of variance was administered with the participants who were classified as high-Incel men and those classified as low-Incel women. The analysis of variance showed a marginally significant effect between means of physical attractiveness, $F(1,84) = 2.81, p = .098$, where high-Incel men scored higher on the construct than low-Incel women. A significant effect between means of social status was found, $F(1,84) = 6.24, p = .014$, with high-Incel men scoring higher than non-Incel women. To conclude, Hypothesis 1 could be supported.

Test of Hypothesis 2

The within-subjects analysis of variance for the second hypothesis, showed that there was a significant difference between women’s long-term and short-term mate-preferences of physical attractiveness, $F(1,78) = 25.18, p < .001$. On average, non-Incel women scored higher on short-term physical attractiveness preferences than long-term physical attractiveness preferences. This means, Hypothesis 2 can also be supported. Nonetheless it should be noted, that the standard deviation for short-term physical attractiveness is higher and therefore individual responses scatter further from the mean, compared to long-term physical attractiveness, which could influence the results.

Test of Hypothesis 3

The third analysis of variance for hypothesis three indicated a significant difference between the means of physical attractiveness and interpersonal warmth in long-term mating, $F(1,78) = 322.48, p < .001$. Non-Incel women scored higher on long-term interpersonal warmth preferences than long-term physical attractiveness preferences. There was also a significant difference between social status and interpersonal warmth in long-term mating, $F(1,78) = 190.19, p < .001$. Again, non-Incel women scored higher on preferences for long-

term interpersonal warmth, than on long-term social status preferences. Therefore, Hypothesis 3 can also be supported.

Discussion

The present study is conducted to investigate the perceived motives and mental health characteristics of Incel men. As stated above, the research question seeks to estimate whether there is a difference between the Incel men's perception of women's mate preferences and women's actual mate preferences. Overall, differences were indeed found between the Incel men's perception of women's mate preferences and their actual mate preferences. In the following, the concrete conclusions of the study are explained per hypothesis.

Theoretical implications

The first hypothesis, concerning the difference between the Incel men's perception of women's mate preferences and the non-Incel women's actual mate preferences was supported. This stands in line with previous findings of Collins (2018) and Jones (2020), stating the Incel men's beliefs to revolve around the notion of society as a class system, ranking a man's perceived mate value based on his looks and social status. It also underpins the mentioned literature on women's mate preferences, illustrating women's mating preferences to not only focus on a man's ability of resource acquisition and physical attractiveness, but also his interpersonal skills and willingness to commit to a woman emotionally (Graziano, Jensen-Campbell, Shebilske & Lundgren, 1993). In sum, the support found for hypothesis 1 questions whether the Incel men's view, distinguished by patriarchal norms influencing women's mating choices, is a reflection of reality (Srinivasan, 2018). Nevertheless, it is necessary to mention that these results only concerned long-term mate preferences of physical attractiveness and social status, due to the technical error disabling the short-term measurement.

The second hypothesis was also supported, as physical attractiveness appeared to not be of value to women in long-term mates, as much as in short-term mates. This gives ground to question the Incels beliefs, entailing women to select their mates purely based on a physical dimension, and only being interested in men with taller and bigger body types. (Young, 2019; Maxwell, Robinson, Williams & Keaton, 2020). The results also stand in line with past literature of Rhodes, Simmons and Peters (2005), who explained body attractiveness to mostly play a role in short-term mating for women. Additionally, previous findings state men high in masculinity and physical attractiveness prompt lack of commitment to women in long-term mating (Debruine, Jones, Crawford, Welling & Little, 2010). This also explains why

women, on average, showed lesser interest in the physical dimension of a potential long-term partner.

The third hypothesis was supported, which contradicts one of the Incel men's main premises found in numerous of their forum-entries. This premise declares a man's interpersonal kindness as unable to circumvent lack of physical attractiveness (Conley, 2020). It also questions the merit of other statements made by Incel men. For instance, they claim women to potentially choose abusive but physically attractive men, over less physically attractive but committed men (Maxwell, Robinson, Williams & Keaton, 2020). Henceforth, the results confirm earlier research on women's actual mate preferences, highlighting women to favour men in mating who are high in sociability (Graziano, Jensen-Campbell, Shebilske & Lundgren, 1993). Furthermore, women demonstrating a higher liking for traits of interpersonal warmth corresponds with findings of Buss and Schmitt (2019), who affirmed women value dependability and emotional stability over feelings of sexual desire in long-term mating.

In conclusion, the results show that the premises of the Incel ideology, concerning women's actual mate preferences, appear to be highly unidirectional. Particularly given the assessed differences between short-term and long-term mating behaviour of women, the Incel men seem to disregard the multidimensionality of a woman's mating choices in sexual and romantic relationships.

Practical implications

As research on the Incel topic has only recently come into view, the present study strengthens the availability of data on the Incel men's premises and perception of women. According to previous findings and the content displayed in numerous online forums, the Incel men's perception may be a result of negative feelings, caused by social and romantic rejection. This narrative has shaped a somewhat distorted picture of women and their mate preferences. Whereas, the Incels expression of their ideology and it's resulting negative public perception might further their social isolation. Consequently, it is important to enable the public comprehension of the Incel men's narrative and underlying mechanisms leading to their behaviour. In turn, this facilitates the development of therapeutic treatment and interventions. Recent articles show, that the anti-feminist belief system of Incel men makes it hard to evoke public conversations about the need of addressing their mental-health issues (Romano, 2018). The Incel men's posts should not only be seen in terms of their hateful content, but also as an expression of pain resulting from the group's social isolation. The source also elaborates on the fact, that the formation of subcultures by Incel men itself is their

response to the need of having to prove their masculinity to adhere to societal standards (Romano, 2018). As this westernized ideal of independent men coins the Incel Ideology, needs-assessment surveys and following self-help groups should be created without deprecating the Incels. Further investigations show, that there is a lack of treatment plans for Incels, as most societal efforts go into banning the community from specific online forums (Violent misogyny, mass murder and suicide: it's time to save Incels from themselves, 2019). Hence, the development of on - and offline treatment programs is needed, involving cooperation of health professionals, tech companies and governments. For this purpose, the results of this study can be used to educate professionals on Incel men's frame of thinking. In turn, this enables ways of tackling their perception of women and sexual and romantic relationships, leading to their social isolation in the first place.

Limitations

The present study enabled the collection of data on 11 self-identified Incel men and 36 high-Incel men who were classified within the study. This data was collected, although it is generally hard to reach individuals that strongly represent the Incels and their ideology, due to them mostly posting anonymously online. Moreover, the mate preference and Level of Inceldom scale had good reliabilities and preliminary construct validity.

However, many group-members that were reached through online forums refused, or were somewhat reluctant to take part in the study. Response rates were also negatively influenced, since the leading researcher of the study was female. This is based on several comments found below the survey link, showing male participants were skeptical of the study's objective after finding out it was conducted by a woman, e.g.: "So there you have it.. the leading woman researchers claim is 'we're just studying relationships', whereas reality is 'gonna get those women-haters!'" and "The questions were written from a gynocentric worldview" (downwardlyspiraling, 2020). Further, it is not ensured whether the categorization of individuals as high or low on Level of Inceldom matches the reality in the general public, as people high in symptoms of social isolation and low self-esteem might still not necessarily be an Incel. For this reason it remains questionable, whether the high-Incel men can be representative of the self-identified Incel population, or whether the low-Incel women can be representative of the population of women. Additionally, although the internal validity of the present study appears strong, it should be noted that the sample was obtained through convenience sampling and has limited generalizability. Also, the measurement validity of the Level of Inceldom scale has not been validated within other studies or samples.

The above implies, that the findings of the study should be interpreted with caution and need further replication.

Conclusion and recommendations for future research

Considering the world is predominantly connected online today, it is key to keep track of the harm its channels can cause. Especially, when the formation of ideological groups such as the Incels have undesirable effects on their individual group members mental health. In line with the results of the study, these effects involve the unidirectional image that is created of women and their perceived mate preferences, which in turn furthers the Incel men's social isolation. Therefore, the present study is part of providing an understanding of the Incel men's perception, to enable education of the public and facilitation of mental health interventions for Incel group members. Nevertheless, it is only a starting point, for further investigation of the Incel men's ideology. As hypothesis four could not be answered, a possible research question could for example be whether the Incels men's perception of women's mate preferences also differs among the notion of short and long-term mate preferences. This would ensure a more in depth analysis of their perception of women's mate preferences. An important implication for future research is also to obtain higher sample sizes of self-identified Incels, to improve the validity of the results. Thereby, the future development and potential changes within the Incel men's perception of women can be observed. In sum, the present study gives an overview over the Incel men's view on women's mate preferences and gives ground for more detailed analyses with larger sample sizes.

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Appendix

Level of Inceldom scale

Instructions. Please indicate how well each statement describes you.

1. I have tried having sexual/romantic relationships, but have been rejected too many times
2. I have tried having sexual/romantic relationships, but have failed too many times
3. I want to find a romantic/sexual partner, but I am too physically unattractive
4. I want to date, but nobody wants to date me
5. I want to have sex, but there is no one to do it with
6. I want to love someone, but there is no one out there for me
7. Noone from the opposite sex ever shows an interest in me
8. I have never been lucky enough to enjoy the pleasure of kissing a person of the opposite sex
9. I have never been lucky enough to enjoy the pleasure of dating a person of the opposite sex
10. I have never been lucky enough to enjoy the pleasure of having sex with a person of the opposite sex
11. I have never been lucky enough to enjoy the pleasure of being desired by the opposite sex
12. Other men/women are enjoying the pleasure of having romantic/sexual experiences, but not me

Mate preference scale

Instructions. *Long-term:* To what extent do you [you think women] desire each factor in a long-term, committed romantic relationship partner (husband/boyfriend)? Please evaluate the following factors using this 5 point scale:

- 3 = absolutely undesirable

-2 = undesirable

-1 = somewhat undesirable

0 = inconsequential/neutral

+1 = somewhat desirable

+2 = desirable

+3 = absolutely desirable

1. Attractive Face
2. Attractive Body
3. Physical Fitness
4. Sex Appeal
5. Height
6. Kind & Understanding
7. Loyal & Dependable
8. Emotional Stability & Maturity
9. Sense of Humor
10. Exciting Personality
11. Wealth & Good Financial Prospect
12. Social status
13. Job & Employment
14. Ambition & Industriousness

Short-term: To what extent do you [you think women] desire each factor in a short-term, uncommitted sex partner (one-night stand/a brief sexual affair partner)?

Please evaluate the following factors using this 5 point scale:

- 3 = absolutely undesirable

-2 = undesirable

-1 = somewhat undesirable

0 = inconsequential/neutral

+1 = somewhat desirable

+2 = desirable

+3 = absolutely desirable

1. Attractive Face
2. Attractive Body
3. Physical Fitness
4. Sex Appeal
5. Height
6. Kind & Understanding
7. Loyal & Dependable
8. Emotional Stability & Maturity
9. Sense of Humor
10. Exciting Personality
11. Wealth & Good Financial Prospect
12. Social status
13. Job & Employment
14. Ambition & Industriousness

Table 3, Level of Inceldom scale

Factor Matrix

	Factor	Factor
	1	2
I have tried having sexual/romantic relationships, but have been rejected too many times	.90	

I have tried having sexual/romantic relationships, but have failed too many times	.82	
I want to find a romantic/sexual partner, but I am too physically unattractive	.80	
I want to date, but nobody wants to date me	.70	
I want to have sex, but there is no one to do it with	.68	
I want to love someone, but there is no one out there for me	.67	
Noone from the opposite sex ever shows an interest in me	.57	.38
I have never been lucky enough to enjoy the pleasure of kissing a person of the opposite sex	.55	.38
I have never been lucky enough to enjoy the pleasure of dating a person of the opposite sex		.90
I have never been lucky enough to enjoy the pleasure of having sex with a person of the opposite sex		.87
I have never been lucky enough to enjoy the pleasure of being desired by the opposite sex		.86
Other men/women are enjoying the pleasure of having romantic/sexual experiences, but not me		.67

Extraction Method: Unweighted Least Squares

Table 4, Mate preferences scale, long-term

Factor Matrix

	Factor	Factor	Factor
	1	2	3
Attractive face	.79		
Sex appeal	.70		
Attractive body	.65		
Physical fitness	.57		
Weight	.49		
Kind & understanding		.80	
Loyal & dependable		.70	
Emotional stability & maturity		.64	
Sense of humor		.47	
Exciting personality		.36	

Wealth & good financial prospect	-.76
Social status	-.62
Job & employment	-.59
Ambition & industriousness	-.46

Extraction Method: Unweighted Least Squares

Table 5, Mate preferences scale, short-term

Factor Matrix

	Factor	Factor	Factor
	1	2	3
Attractive face	.78		
Sex appeal	.67		
Attractive body	.65		
Physical fitness	.62		
Weight	.42		
Kind & understanding		.82	
Loyal & dependable		.76	
Emotional stability & maturity		.72	
Sense of humor		.71	
Exciting personality		.40	
Wealth & good financial prospect			-.77
Social status			-.64
Job & employment			-.56
Ambition & industriousness			-.51

Extraction Method: Unweighted Least Squares